REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. With this amendment, claims 1, 24, 35, and 36 have been amended, claims 11-23 have been cancelled without prejudice or disclaimer, and claims 39 and 40 have been added. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier. Thus, claims 1, 2, 5-10, 24, 25, and 28-40 remain pending in the application. Support for new claims 39 and 40 can be found in at least paragraph [0025] of the specification. Support for the amendments to claims 35 and 36 can be found in at least paragraph [0008] of the specification.

Claim Rejections-35 U.S.C. § 102

Claims 1-2, 5, 7-9, 24-25, 28, 31, 32, and 33 were rejected under 35 U.S.C. 102(b) as being anticipated by Cronin et al. (US Patent 6,045,996, issued April 4, 2000). Claims 1-2, 5-10, 24, 25, and 28-38 were rejected under 35 U.S.C. 102(b) as being anticipated by Han et al. (Nature Biotechnology (2001) volume 19, pages 631 -635). Claims 1-3 and 24-26 were rejected under 35 U.S.C. 102(b) as being anticipated by Lockhart et al. (WO97127317, published July 31, 1997). Applicants respectfully traverse these rejections.

Neither Cronin et al., Han et al., nor Lockhart et al. anticipate claims 1, 2, 5-10, 24, 25, and 28-40 because Cronin et al., Han et al., and Lockhart et al. lack an element recited in independent claims 1 and 24. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Independent claims 1 and 24 have been amended to recite, *inter alia*, "at least one of the labeled probes is *configured to be* identified by an intensity of at least one of the unique signal molecules." This feature is neither taught nor suggested by Cronin et al., Han et al., nor Lockhart et al.

In the office action, the Examiner states "[t]he claims are drawn to a composition, and compositions are defined by structural limitations. The arguments to the functional limitations of

the oligonucleotide probes, are moot as they are not directed to the structure of the compositions as claimed." (Office action, p.6, l.6-10, p.9, l.18-22, p.12, l.3-7). However, "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). *See also* MPEP 2143.03. Further, there is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971); *In re Barr*, 444 F.2d 588, 170 USPQ 33 (CCPA 1971) (holding that the limitation used to define a radical on a chemical compound as "incapable of forming a dye with said oxidizing developing agent" although functional, was perfectly acceptable because it set definite boundaries on the patent protection sought. That is, the phrase "*configured to be* identified by an intensity of at least one of the unique signal molecules" functionally defines a structural feature of the labeled nucleotides.

Cronin et al, in contrast, teaches a probe that is not labeled. The probes in Cronin are simply unlabeled oligonucleotides attached to the array surface. In hybridization assays, the labeling is on the target, not the probes. Further, the examiner argues that "the hybridizing is labeling a probe." This is incorrect. The labeling a probe is different from attaching a labeled target to a probe by hybridization. Furthermore, it is desirable to have a labeled probe that can be used for binding to an unlabeled target so that the unlabeled target and its sequence can be identified. If the probe is "labeled" by hybridizing a labeled target, the hybridized probe can no longer bind to an unlabeled target, and thus becomes useless. Further, Cronin does not teach identifying the type of nucleotide at each position by an intensity of at least one of the unique signal molecules. Cronin teaches identifying the type of nucleotide at each position in the labeled probe by the position on the array where the signal molecule lights up, but not by an intensity of the signal molecules.

Han et al., does not teach identifying the type of nucleotide at each position by an intensity of at least one of the unique signal molecules. As illustrated in the instant specification, the number of a unique signal molecule represents the type of nucleotide at each position. In contrast, Han et al. simply teach that numerous combinations can be made by mixing different quantum dots at different ratios. A person following Han cannot identify the type of nucleotide at each position by only looking at one type of unique signal molecule because the encoding described in Han requires

reading all different colors in the code. In comparison, in the claimed invention, a unique molecule encodes the type of nucleotide at each position, which is not taught by Han.

Lockhart teaches a method of identifying difference in nucleic acid abundances by providing an array containing a large number of arbitrarily selected different oligonucleotide probes where the sequence and location of each different probe is known. Differences in the hybridization patterns between samples indicates differences in expression of various genes between those samples.

Simply, neither Cronin, Han, nor Lockhart teaches "at least one of the labeled probes is *configured to be* identified by an intensity of at least one of the unique signal molecules" as recited in independent claims 1 and 24. Therefore, none of these references anticipate independent claims 1 and 24 or any of the claims that depend on these claims. Applicants respectfully request withdrawal of these rejections.

CONCLUSION

It is respectfully submitted that each of the presently pending claims are in condition for allowance and notification to that effect is requested. Examiner is invited to contact the Applicants' representative at the below-listed telephone number if it is believed that the prosecution of this application may be assisted thereby.

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Respectfully submitted,

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